

**CLEAN VERSION**

**ABSTRACT OF THE DISCLOSURE**

A transistor using mechanical stress to alter carrier mobility. Voids are formed in one or more of the source, drain, channel or gate regions to introduce tensile or compressive stress to improve short channel effects.

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**ABSTRACT OF THE DISCLOSURE**

[ABSTRACT OF THE INVENTION]

[A method of improving short channel effects in a transistor. First, a substance is implanted in a substrate. The substrate is then annealed such that the implanted substance forms at least one void in the substrate. Then, a transistor having a source, a drain, and a channel region is formed on the substrate, wherein the at least one void is in the channel region of the transistor.]

A transistor using mechanical stress to alter carrier mobility. Voids are formed in one or more of the source, drain, channel or gate regions to introduce tensile or compressive stress to improve short channel effects.



2818

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<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	10/045,376
	Filing Date	11-9-01
	First Named Inventor	Doyle, et al.
	Group Art Unit	2818
	Examiner Name	Le, Dung Anh
Total Number of Pages in This Submission	Attorney Docket Number	42390.P5768D

ENCLOSURES (check all that apply)		
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	William W. Kidd, Reg. No. 31,772
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: )  
 )  
Doyle, et al. )  
 )  
Application No.: 10/045,376 )  
 )  
Filed: November 9, 2001 )  
 )  
For: MOS Transistor Using Mechanical Stress )  
To Control Short Channel Effects )

Art Unit: 2818

Examiner: Le, Dung Anh

Commissioner for Patents  
Washington, D.C. 20231

TECHNOLOGY CENTER 2800

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SUBSTITUTE ABSTRACT OF THE DISCLOSURE

Dear Sir:

In response to the objection raised in the Office Action mailed on September 24, 2002, Applicants hereby submit a substitute Abstract of the Disclosure.

Please charge any insufficiency or credit any overpayment to Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

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Date:

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